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// C08G 63/664**(21)Application number : **06-117493**(71)Applicant : **KANEBO LTD
SHIMADZU CORP**(22)Date of filing : **06.05.1994**(72)Inventor : **KONDO YOSHIKAZU
MATSUI MASAO
KOSEKI HIDEKAZU
FUJII YASUHIRO****(54) METHOD FOR PRODUCING HIGHLY STRONG POLYLACTIC ACID FIBER**

(57)Abstract:

PURPOSE: To obtain highly strong polylactic acid fiber excellent in toughness, heat resistance and biodegradability and useful for clothing, medical treatments, etc., by continuously copolymerizing a specific amount of L-lactic acid, etc., with a specific amount of polyethylene glycol and subsequently spinning the copolymer under specific conditions.

CONSTITUTION: This method for producing the highly strong polylactic acid fiber comprises continuously copolymerizing 99.9-85wt.% of L-lactic acid, D-lactic acid and/or their cyclic dimers (lactides) with 0.1-15wt.% of a polyethylene glycol having a mol.wt. of ≥ 300 in a melted state, directly melt-spinning the melted copolymer in a spinning head without solidifying and pelletizing the copolymer, drawing the spun fiber to a length of ≥ 3 times, and subsequently thermally treating the drawn fiber. The obtained objective polylactic acid fiber maintains a mol.wt. of ≥ 70000 and has a fiber strength of $\geq 3g/d$. A hindered phenol compound and/or a hindered amine compound are preferably added to the polymerization system in amounts of $\geq 10ppm$, and the melting point of the fibers is preferably $\geq 130^{\circ}C$.